

In the Claims

Amend the claims as follows.

- E1
1. (Twice Amended) A method for detection of at least one coding region allele of a multi-allelic genetic locus comprising:
- a) amplifying genomic DNA with a primer pair that spans a non-coding region sequence, said primer pair defining a DNA sequence which is in genetic linkage with said genetic locus and contains a sufficient number of non-coding region sequence nucleotides to produce an amplified DNA sequence characteristic of said allele; and
 - b) analyzing the amplified DNA sequence to detect the allele.
- 9

- E2
2. (Three Times Amended) A method for detection of at least one allele of a multi-allelic genetic locus comprising:
- a) amplifying genomic DNA with a primer pair that spans a non-coding region sequence, said primer pair defining a DNA sequence which is in genetic linkage with said allele and contains a sufficient number of non-coding region sequence nucleotides to produce an amplified DNA sequence characteristic of said allele; and
 - b) analyzing said amplified DNA sequence to determine [detect] the presence of a genetic variation in said amplified sequence to detect the allele.
- 19

- E3
21. (Amended) A method for producing RFLP patterns for an HLA locus of an individual comprising the steps of:
- a) amplifying HLA DNA from said individual with a primer pair specific for said HLA locus under conditions suitable to produce an amplified DNA sequence, primer sites for said primers being located in intervening sequence I and in intervening sequence III when said HLA locus is a Class I locus and in intervening

sequence I and in intervening sequence II when said locus is a Class II locus;

- b) producing a digest by combining said amplified DNA sequence with at least one endonuclease that cleaves said amplified DNA sequence to yield a set of fragments having distinctive fragment lengths; and
- c) producing RFLP patterns from said digest.

26. (Amended) A method for determining whether DNA in a sample is from a particular individual comprising the steps of:

- a) amplifying DNA from said individual and DNA from said sample with a primer pair specific for an HLA locus under suitable conditions to produce an amplified DNA sequence from said individual and from said sample, said primers being located in intervening sequences I and III for an HLA Class I locus and in intervening sequences I and II for a Class II locus;
- b) combining said amplified DNA sequence from said individual and said amplified sample DNA from said sample with at least one endonuclease that cleaves said amplified DNA sequence into a plurality of cleaved sequences of sufficiently different lengths to distinguish between alleles of said HLA locus for a period of time sufficient for digestion of said amplified DNA to produce a digest; and
- c) comparing restriction fragment length polymorphic patterns produced by said digest from said individual and from said sample to determine whether DNA in the sample is from the individual.

37. (Amended) A[n improved] DNA analysis method for determining [in which] coding region alleles of a multi-allelic genetic locus comprising [are determined by] identifying sequence polymorphisms characteristic of the alleles, wherein said [the improvement comprising

E5
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identifying] sequence polymorphisms characteristic of the alleles are present in a non-coding region sequence, said non-coding region sequence being not more than about two kilobases in length.

[Add the following claims.

- E6
17. A method for producing RFLP fragments characteristic of alleles of an HLA locus of an individual comprising the steps of:
- a) amplifying genomic HLA DNA from said individual with a primer pair specific for said HLA locus under conditions suitable to produce an amplified DNA sequence; and
 - b) producing a digest by combining said amplified DNA sequence with at least one endonuclease that cleaves said amplified DNA sequence to yield a set of fragments having distinctive fragment lengths.
18. The method of Claim 17 additionally comprising the step of producing RFLP patterns from said digest.
19. The method of Claim 17 wherein said primers define a DNA sequence that contains all exons that encode allelic variability associated with said HLA locus.
20. A method for producing RFLP fragments for an HLA locus of an individual comprising the steps of:
- a) amplifying genomic HLA DNA from said individual with a primer pair specific for said HLA locus under conditions suitable to produce an amplified DNA sequence, said primers defining a DNA sequence that contains all exons that encode allelic variability associated with said HLA locus; and
 - b) producing a digest by combining said amplified DNA sequence with at least one endonuclease that cleaves said amplified DNA sequence to yield a set of fragments having distinctive fragment lengths.